

**To:** McWhirter, Lisa[McWhirter.Lisa@epa.gov]  
**From:** Dermer, Michele  
**Sent:** Tue 7/21/2015 9:31:45 PM  
**Subject:** FW: July 16, 2015 Aquifer Exemption Subgroup Call - Agenda: Region 9 potential proposed AE package

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**From:** Dermer, Michele  
**Sent:** Wednesday, July 15, 2015 2:40 PM  
**To:** Hildebrandt, Kurt; Tiago, Joseph  
**Cc:** Albright, David; Minter, Douglas; Mindrup, Mary; Ginsberg, Marilyn; Green, Holly; Johnson, Ken-E; Cheung, Wendy; Oberley, Gregory; Dellinger, Philip; Graff, Michelle; Colombo, Matt  
**Subject:** RE: July 16, 2015 Aquifer Exemption Subgroup Call - Agenda: Region 9 potential proposed AE package

Hi Kurt and Joe,

Here is a brief explanation of the one AE package we may be getting next month. I've copied the subgroup and will be on the call tomorrow to discuss and answer and ask questions.  
Thanks! Michele

#### Upcoming Proposed Aquifer Exemption - Region 9

On Monday (July 13, 2015) Region 9 was given a brief preview of an aquifer exemption package that we may be receiving at the end of next month from CA. This is a summary of the information we were provided:

Location is in the Arroyo Grande field, central coast of Ca., southern San Luis Obispo County, inland from Pismo Beach. The field has been operating since approximately 1905. The current operator is Freeport McMoRan, formerly Plains Exploration, which is the fourth largest producer in CA behind Chevron, Aera Energy, and Occidental. The field is currently producing 5000 barrels a day.

The formation to be proposed for exemption is the Dollie Sands, in the Pismo Formation. A portion of the Dollie Sands was exempted at primacy, but only the portion that was hydrocarbon producing at the time of primacy (1982). The exemption will seek to expand the boundaries of the producing formation. The entire unit is part of a syncline with hydrocarbons trapped along a limb of the syncline, which is faulted to the north and pinches out to the south. (Unfortunately we were not given a drawing or map, and the state folks indicated they were still waiting for cross sections.) The state oil and gas folks, DOGGR, are most concerned with confinement of the injectate to the proposed exempted zone.

The exemption would cover the continued injection well operations which are primarily EOR

steam injection, a mix of steam flood or cyclic steam (more than 150 wells), and less than a handful of disposal wells. The water quality of the Dollie Sand for which they will be seeking and AE is such that it is a USDW with TDS of less than 3000 ppm.

There are no drinking water wells close by, and there are no plans for future use - the State Water Board is going to be given a formal proposal in the next week or so, but in their informal review they have indicated they believe the best use of this formation for the state of CA is for oil production. Stay tuned.

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**From:** Hildebrandt, Kurt

**Sent:** Wednesday, July 15, 2015 12:47 PM

**To:** Tiago, Joseph; Johnson, Ken-E; Cheung, Wendy; Dermer, Michele; Ginsberg, Marilyn; Colombo, Matt; Graff, Michelle; Dellinger, Philip; Oberley, Gregory

**Cc:** Albright, David; Minter, Douglas; Mindrup, Mary; Green, Holly

**Subject:** July 16, 2015 Aquifer Exemption Subgroup Call - Agenda

Just a reminder that we'll have our next conference call tomorrow (**July 16, 2015**) from **3:00pm to 4:00pm EDT**

The call-in number is:

**Ex. 6 - Personal Privacy**

The agenda for the call is as follows -

- 1) Brief summary from R6 (possibly as I haven't gotten confirmation), R8 & R9 about their experiences with AEs involving current use or "complex" situations.
- 2) Begin work on defining/refining "current source of drinking water" and "complex situations" and other relevant terms. The following are terms defined in the 5/27/15 Draft AE Current Source Outline document:
  - **Current Source:** A drinking water well's current source of water is defined as "the volume or (portion) of an aquifer which contains water that will be produced by a well in its lifetime." The July 2014 memo further explains that water that currently serves as a source of drinking water can include water that is being withdrawn in the present moment as well as water that will be withdrawn over time by a well currently in existence.
  - **Capture Zone:** The volume of the aquifer(s) or portion(s) thereof from within which ground water is expected to be captured by that well.
  - **Capture Zone Analysis:** The process of interpreting the capture zone of the drinking

water well in question, and determining if that zone intersects with ground water in the proposed exempted area.

- **Search Zone:** The zone within which a survey is conducted to identify potential drinking water wells, PWS or private domestic wells that could be drawing water from the proposed exempted aquifer or portion thereof. The search zone includes the proposed exempted area and beyond.
- 3) Discuss if the group's opinion of it would possible to create a flow chart or table to assist programs in determining things like if the request falls into the "complex situation" or whether an aquifer proposed for exemption serves as a "current source of drinking water" (or when they should invoke using a model to make that call)
  - 4) Next call and face-to-face meeting discussion.

Finally, I wanted to thank Marilyn for her presentation during our last call and note that there is a good discussion of the various models including the McElwee model that Marilyn demonstrated within the Draft AE Current Source Outline document that is posted on our SharePoint site in the documents folder. So if you haven't already, you may want to take a look at it.

Talk with you tomorrow.